What is claimed is:

1. A solid titanium catalyst component being obtained by a process comprising:

a step of bringing (a) a liquid magnesium compound into contact with (b) a liquid titanium compound in the presence of (c) an organosilicon compound having no active hydrogen in an amount of 0.25 to 0.35 mol based on 1 mol of the magnesium compound (a); and

a step of elevating the temperature of the resulting contact product (i) to a temperature of 105 to 115 °C and maintaining the contact product (i) at this temperature,

said solid titanium catalyst component comprising magnesium, titanium, halogen and the organosilicon compound having no active hydrogen (c).

2. A solid titanium catalyst component being obtained by a process comprising:

a step of bringing (a) a liquid magnesium compound into contact with (b) a liquid titanium compound in the presence of (c) an organosilicon compound having no active hydrogen in an amount of 0.25 to 0.35 mol based on 1 mol of the magnesium compound (a); and

a step of elevating the temperature of the resulting contact product (i) to maintain the contact product (i) at a given temperature of 105 to 115 °C, wherein the organosilicon compound having no active hydrogen (c) is added in an amount of not more than 0.5 mol based on 1 mol of the magnesium compound (a) while the temperature of the

contact product (i) is elevated from a temperature lower by 10 °C than the temperature maintained to a temperature at which the elevation of the temperature is completed, or after the elevation of the temperature is completed, so as to bring the compound (c) into contact with the contact product (i),

said solid titanium catalyst component comprising magnesium, titanium, halogen and the organosilicon compound having no active hydrogen (c).

3. An ethylene polymerization catalyst comprising:

[I] the solid titanium catalyst component as claimed in any one of claims 1 and 2, and

[II] an organometallic compound.

4. An ethylene polymerization process comprising polymerizing ethylene or copolymerizing ethylene and a comonomer in the presence of the catalyst as claimed in claim 3.